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AIR MOBILITY COMMAND

AIR MOBILITY COMMAND
INSTRUCTION 21-105

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MAINTENANCE

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This instruction implements policy guidance in *Air Force Policy Directive* 21-1, *Air and Space Equipment Structural Management*, AFI 21-101, *Maintenance Management of Aircraft*, and AFI 21-131, *Oil Analysis Program* (OAP). This instruction provides guidance and direction necessary to develop an effective, Aircraft Metals Technology (AMT) Program, Nondestructive Inspection (NDI) Program, and Aircraft Structural Maintenance (ASM) Program. This publication is applicable to all AMC units, AMC Air Reserve Component (ARC) Classic Associate units, Air Force Reserve Command (AFRC), Air National Guard (ANG) upon mobilization and/or AMC-led classic AFRC and ANG associations. Supplements will not lessen the requirements nor change the basic content or intent of this instruction. Process supplements in accordance with (IAW) AFI 33-360, *Publications and Forms Management*. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. The authorities to waive wing level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360 for description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items using the AF Form 679, *Publication Compliance Item Waiver Request/Approval*, to HQ AMC/A4M, 402 Scott Drive, Unit 2A11, Scott AFB IL 62225-5300. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force

Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Contact supporting records managers as required. See **Attachment 1** for a glossary of references and supporting information. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

Major changes include aircraft welding certification, additive manufacturing, AGE corrosion, precision cutting tools and aircraft standard markings and deviations.

Chapter 1

AIRCRAFT METALS TECHNOLOGY PROGRAM (2A7X1)

1.1. MAJCOM/A4M Responsibilities.

1.1.1. The designated Senior Noncommissioned Officer (SNCO) will manage the Aircraft Metals Technology (AMT) program and perform the following duties:

1.1.1.1. Establish base metal groups required for welding certification in accordance with T.O. 00-25-252, *Aeronautical Equipment Welding*.

1.1.1.1.1. All 2A7X1 journeyman, craftsman, and civilian equivalent welders, will be weld certified in four mandatory base metal groups:

1.1.1.1.1.1. Group I (Carbon and Low Alloy Steel), Group II (Stainless Steel), Group III (Nickel Alloy), and Group IV (Aluminum Alloy).

1.1.1.1.2. All 2A7X1 journeyman, craftsman, and civilian equivalent welders, will be weld certified in at least one of the following base metal groups:

1.1.1.1.2.1. Group V (Magnesium Alloy), Group VI (Titanium Alloy), Group VII (Cobalt Alloy).

1.1.1.1.2.2. The base metal group(s) will be selected by each Aircraft Metals Technology Section, include all base metal groups required to accomplish the mission at that location.

1.1.1.2. Develop and coordinates command policy and procedures for AMT functions.

1.1.1.3. Approve all intra-command AMT Temporary Duty (TDY) manning assistance requests.

1.1.1.4. Coordinate inter/intra-command 2A7X1 equipment transfers.

1.1.1.5. Forecast and ensure scheduling of 2A7X1 supplemental training.

1.1.1.6. Coordinate on and approve Technical Order (T.O.) Publication Change Requests (PCR) and Source Maintenance and Recoverability Code reviews applicable to the AMT community.

1.1.1.7. Support the Air Force Metals Technology Office (MTO) by participating in MTO equipment evaluations, field surveys, MTO Integrated Process Teams (IPT), MTO Product Improvement Teams (PIT), Air Force MTO managers' meetings/working groups and advisory board meetings.

1.1.1.8. Serve as the MAJCOM voting authority during the 2A7X1 Specialty Training Requirements Team (STRT) and Utilization and Training Workshop (U&TW).

1.2. Maintenance Group Commander (MXG/CC) Responsibilities.

1.2.1. Certifying official for unit level welding examination. The MXG/CC may delegate responsibility in accordance with T.O. 00-25-252.

1.3. Maintenance Squadron Commander (MXS/CC) Responsibilities.

1.3.1. Ensure funding is available for AMT personnel to be certified at an Air Logistics Center (ALC) to perform welding operations when local certification capabilities do not exist.

1.4. Fabrication Flight Chief Responsibilities.

1.4.1. Ensure all journeyman, craftsman, and civilian equivalent welders assigned to the AMT section are certified in accordance with T.O. 00-25-252 to perform welding operations in the required metal groups directed by the MAJCOM Functional Manager, outlined in **paragraphs 1.1.1.1.1** through **1.1.1.1.2**. If assuming the responsibility of certifying official, noted in **paragraph 1.2.1**, they must complete and maintain documentation in accordance with T.O. 00-25-252.

1.4.2. Ensure all Active Duty, ANG, Reserve, and civilian equivalents are weld certified to Level II in accordance with T.O. 00-25-252. Level I certification can be obtained prior to achieving Level II if necessary to meet the mission needs.

1.5. AMT Section Chief Responsibilities.

1.5.1. Ensure machines and shop equipment are maintained and inspected in accordance with T.O. 34-1-3, *Machinery and Shop Equipment* and hand/measuring tools are maintained in accordance with T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*.

1.5.2. Ensure assigned AMT personnel maintain welding certifications outlined in **paragraph 1.4.1** through **1.4.2**.

1.5.3. Coordinate requests for an ALC or other qualified organization to qualify welders. If qualification and certification is accomplished locally, coordinate certification requirements with the NDI section to ensure x-ray capability and required image quality indicators are present.

1.5.4. Ensure correct completion of DD Form 2757, *Welding Examination Record*, for shop welders.

1.5.4.1. The Observing Official is required to be a 5 or 7-level AMT technician or civilian equivalent welder.

1.5.4.2. The Welder's Supervisor will function as the Testing Official. The Welder's Supervisor may also perform Examiner duties and date/sign block 18, when applicable **(T-2)**.

1.5.5. Ensure journeymen are weld certified NLT 12 months (24 months for ARC) after award of 5-skill level (individuals that PCS from another MAJCOM that did not have the same requirements will be certified within 6 months of assignment) **(T-2)**.

1.6. Additive Manufacturing.

1.6.1. Local Purchase Equipment. Equipment items for Additive Manufacturing (AM) process shall not be purchased locally without the knowledge and approval of the AF Metals Technology Program Office (MTO), AFLCMC/EZPT-MTO, Robins AFB, GA and Command Fabrication Functional Manager.

1.6.1.1. Consumable support items and replacement parts may be purchased at any time without approval.

1.6.2. Guidance for the use of AM to build replacement parts is prescribed in AFI 63-101/20-101 Integrated Life Cycle Management.

1.6.3. Reference T.O. 34A-1-1, *Additive Manufacturing Qualification of Technicians, Machines and Facilities*, for AM methods and requirements for training, equipment, process controls and T.O. 34A-1-3, *Polymers Additive Manufacturing, General Procedures and Process Controls.*

1.6.4. Additively manufactured aircraft parts require System Program Office (SPO) authorization.

1.6.4.1. Approved aircraft parts will be listed in the weapon system's illustrated parts breakdown (IPB) as an alternate AM part number and appropriate Source Maintenance, and Recoverability (SMR) code (i.e. MFO or MOO), reference T.O. 00-25-195, *AF Technical Order System Source Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipments* and Table 4-3, *AF SMR Coding Matrix*.

1.6.4.2. A Technical Assistance Request (TAR) or 107 will provide authorization for limited use of non-listed substitutes (supplies, components, support equipment, etc.) to prevent work stoppages, in accordance with T.O. 00-25-107, *Maintenance Assistance*.

1.6.4.3. The Joint Engineering Data Management Information Control System (JEDMICS) is the current repository for Technical Data Packages (TDPs). Accessing **https://jedmics.af.mil** and entering the appropriate drawing number (i.e. 201874532) will download the complete TDP, including the embedded build file, required to additively manufacture the part.

Chapter 2

NONDESTRUCTIVE INSPECTION PROGRAM (2A7X2)

2.1. MAJCOM/A4M Responsibilities.

2.1.1. The designated Noncommissioned Officer (NCO) or SNCO will manage the NDI program and perform the following duties:

2.1.1.1. Manage the command NDI and Oil Analysis programs (OAP).

2.1.1.2. Develop and coordinate command policy and procedures for NDI and OAP functions.

2.1.1.3. Approve all intra-command NDI TDY manning assistance requests.

2.1.1.4. Coordinate inter/intra-command 2A7X2 equipment transfers.

2.1.1.5. Forecast and ensure scheduling of 2A7X2 supplemental training.

2.1.1.6. Coordinate and approve on T.O. PCR and Source Maintenance and Recoverability Code reviews applicable to the NDI community.

2.1.1.7. Support the Air Force NDI Office by participating in NDI equipment evaluations, field surveys, NDI IPT, NDI PIT, Air Force NDI managers' meetings/working groups and advisory board meetings.

2.1.1.8. Serve as the MAJCOM voting authority during the 2A7X2 STRT and U&TW.

2.2. MXG/CC Responsibilities.

2.2.1. Ensure civilian NDI technicians are NAS 410 certified.

2.3. MXS/CC Responsibilities.

2.3.1. Ensure only properly trained personnel with Air Force Specialty Code (AFSC) 2A7X2, or NAS 410 certification for civilian technicians operate NDI equipment and perform NDI.

2.3.2. Ensure personnel performing NDI inspections are certified in accordance with AFI 21-101 and NAS 410 as applicable.

2.4. NDI Section Chief Responsibilities.

2.4.1. Ensure machines and shop equipment are maintained and inspected in accordance with T.O. 34-1-3, *Machinery and Shop Equipment*.

2.4.2. Ensure NDI Quality Assurance (QA) Augmentees are properly trained, documented and are current on all inspection methods.

2.4.2.1. Augmentees will conduct Personal Evaluations (PE) utilizing the PE Checklists located on the AF NDI Office (AFNDIO) SharePoint. Once the Evaluation is completed, augmentees are required to maintain these documents in the section. They will be maintained until the next PE is conducted on that specific method. **(T-2).**

2.4.3. Forecast funding for personnel to attend training courses and participate in applicable NDI Corporate Process Activities (CPA) and working groups.

2.4.4. Ensure the Radiation Safety Program requirements are in compliance with T.O. 33B-1-1, *Nondestructive Inspection Methods, Basic Theory*, AFI 48-148, *Ionizing Radiation Protection* and AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*.

Chapter 3

AIRCRAFT STRUCTURAL MAINTENANCE AND CORROSION CONTROL PROGRAM (2A7X3)

3.1. MAJCOM/A4M Responsibilities.

3.1.1. The designated SNCO will manage the Aircraft Structural Maintenance (ASM) and Corrosion Control programs and perform the following duties:

3.1.1.1. Develop and coordinates command policy and procedures for ASM and Corrosion Control functions.

3.1.1.2. Approve all intra-command ASM TDY manning assistance requests.

3.1.1.3. Coordinate inter/intra-command 2A7X3 equipment transfers.

3.1.1.4. Forecast and ensure scheduling of 2A7X3 supplemental training.

3.1.1.5. Represent command at 2A7X3 utilization and training workshops. Provide corrosion and structural input to career field managers in all maintenance AFSCs.

3.1.1.6. Coordinate and approve on T.O., PCR, and Source Maintenance and Recoverability Code reviews applicable to the ASM community.

3.1.1.7. Serve as the MAJCOM voting authority during the 2A7X3 STRT and U&TW.

3.1.1.8. Serve as the Command Corrosion Control Manager.

3.1.1.8.1. Represent command at assigned weapon systems Corrosion Prevention Advisory Boards (CPAB), AF/DoD corrosion conferences, and field surveys.

3.1.1.8.1.1. Advocate AMC maintenance unit attendance and active participation at weapon system-specific CPABs.

3.1.1.8.2. Support Air Force Corrosion Control Prevention Executive (CCPE) by participating in working groups, advisory boards and providing corrosion data for the annual corrosion report.

3.1.1.8.3. Support Air Force Corrosion Prevention and Control Office (AFCPCO) by participating in equipment evaluations, corrosion program managers meetings, advisory boards, executive council meetings, and field surveys.

3.1.1.8.3.1. Coordinate with the AFCPCO in selection and accomplishment of command Corrosion Survey at a minimum of every 5 years.

3.1.1.8.4. Ensure adequate corrosion control training is available and current for all aircraft and AGE maintenance personnel.

3.2. WG/CC Responsibilities.

3.2.1. Approve all aircraft paint waivers, tail flashes, and nose art requests. Ensure all requests have been routed through local Historian, Public Affairs, and wing corrosion manager. Submit all required documents to the HQ AMC/A4, Command Fabrication Functional/Corrosion Manager in accordance with **paragraphs 5.5.2.1** and **5.5.2.3**.

3.3. MXG/CC Responsibilities.

3.3.1. Ensure adequate facilities, equipment, manpower, material and funding are available to support a sound corrosion prevention and control program. The minimum requirements are:

3.3.1.1. Provide a year round maintenance painting facility for assigned aircraft.

3.3.1.2. Facilities will meet Federal, State, and Local requirements **(T-2).**

3.3.1.3. Ensure requirements outlined in AFI 32-1024, *Standard Facility Requirements*, and AFMAN 32-1084, *Facility Requirements*, are met for SE and aircraft small parts. This capability can be incorporated in the aircraft corrosion control facility if space permits.

3.3.1.4. Ensure facility control technology meets local, state and federal Environmental Protection Agency requirements in conjunction with current National Emission Standards for Hazardous Air Pollutants [40 CFR Part 61 and 63].

3.3.2. Ensure adequate wash facilities are available on a year round basis. This may be accomplished in any way deemed prudent for the locale and mission of the unit. This requirement may be met with one or more of the following:

3.3.2.1. A specially designed corrosion control facility completely enclosed, heated with environmentally controlled ventilation and waste disposal systems, and equipped with all utilities necessary for accomplishing all facets of aircraft corrosion control.

3.3.2.2. An environmentally compliant enclosed or covered wash rack.

3.3.2.3. An outside wash rack may be used on an interim basis when weather conditions permit and when approved by Base Civil Engineer.

3.3.3. Ensure frequency of wash/rinse cycles are maintained in accordance with T.O. 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*, and revised as necessary based on changes in mission and location.

3.3.3.1. For any aircraft overdue wash, request overfly approval from MAJCOM Corrosion Program Manager and Weapon Specific Systems Manager per T.O. 1-1-691, *Aircraft Weapons Systems—Cleaning and Corrosion Control*. Some airframes require a submittal of a TAR/107.

3.3.3.1.1. Notification shall include aircraft tail number(s), date of last wash, reason for overdue condition, and corrective action taken to prevent further occurrences. MAJCOM Corrosion Program Manager will ensure routing of waiver request to system program office (SPO) engineer and AFCPCO. The SPO engineer has final approval authority for waiver requests **(T-2).**

3.3.4. Ensure Plans, Scheduling & Documentation section(s) schedule aircraft washes through applicable Maintenance Information System (MIS).

3.3.5. Ensure QA adequately evaluates corrosion control programs through inspection and maintenance follow-up evaluations.

3.3.6. Appoint a wing corrosion manager and aircraft wash facility manager, in writing, to provide continuity and ensure proper equipment and materials are maintained at the facility in accordance with AFI 21-101.

3.3.7. Appoint personnel authorized to sign-off contract washes, as required.

3.4. Wing Corrosion Program Manager Responsibilities.

3.4.1. The wing corrosion program manager serves as the wing focal point for all aircraft and SE cleaning, corrosion and organic coatings related information and tasking's. The wing corrosion program manager shall organize, direct, and manage the wing/group corrosion management program according to: AFI 21-101, AFI 20-114, T.O. 1-1-691, T.O. 1-1-8, T.O. 1-1-689-3, *Cleaning and Corrosion Control Volume III Avionics and Electrics*, T.O. 35-1-3, *Corrosion Prevention and Control, Cleaning; Painting, and Marking of USAF Support Equipment (SE)*, applicable weapon system specific –3 (structural repair manual), -23 (corrosion prevention and control manual), and this instruction. **(T-2).**

3.4.2. Before reassignment or retirement the wing corrosion manager will ensure their successor is appointed early enough to provide an effective turnover of the corrosion program. The outgoing corrosion manager must confer with the Fabrication Flight Chief and ASM supervisors to identify a replacement. A copy of the new appointment memo will be sent to HQ AMC/A4M, Command Fabrication Functional/Corrosion Manager, within 60 days of the appointment. **(T-2).**

3.4.3. Ensure corrosion inspections are accomplished during each phase/periodic/isochronal inspection for aircraft and equipment assigned as required.

3.4.4. Ensure corrosion prevention and treatment procedures are performed within technical order requirements.

3.4.4.1. In the event there are no weapons system specific post wash corrosion inspection requirements, the wing corrosion manager will coordinate with units to establish local requirements **(T-2).**

3.4.5. Ensure only qualified product list (QPL) and/or the Qualified Product Database (QPD) authorized wash agents are utilized for overall and spot washes. Use of unapproved commercial or household/janitorial cleaners is strictly prohibited.

3.4.6. In conjunction with the local Supply/Hazmart pharmacy, ensure only products from QPLs/QPDs approved for aircraft/aerospace equipment are being used.

3.4.7. Develop and submit comments or recommendations for improvement of the corrosion control program to HQ AMC/A4M, Command Fabrication Functional/Corrosion Manager.

3.4.8. Establish and chair a local corrosion prevention working group to formalize the wing corrosion management program. Working groups may meet as frequently as necessary to maintain an effective program, but will meet at least annually. This working group should meet approximately 90 days prior to the next scheduled applicable weapons system CPAB to formalize action items. Minutes will be published and are recommended to be maintained at least 3 calendar years for continuity purposes **(T-2).**

3.4.8.1. As a minimum, membership will include the unit corrosion manager, flight line (owning unit) maintenance supervisors, Plans Scheduling and Documentation (PS&D) personnel, ASM supervisors, Aerospace Ground Equipment (AGE) supervisors, and appropriate QA representatives **(T-2).**

3.4.8.2. Submit CPAB action items to the Command Fabrication Functional/Corrosion Manager. Action items may be submitted throughout the year and must focus on structural

integrity, extended service life, and improved repair techniques for the weapon system **(T-2).**

3.4.8.3. Forecast funding, plan, and attend assigned weapon system CPAB or send a qualified representative.

3.4.9. Serve as wing corrosion program Point of Contact (POC) for all outside agencies.

3.4.10. Forecast or Program Objective Memoranda (POM) for funding requirements in order to attend DoD, Air Force and AMC Corrosion Manager meetings and workshops.

3.4.11. Ensure unit's corrosion related training courses are administered as intended by the MAJCOM and AFI. An initial interactive course with location specific supplemental training and annual refresher training is the minimum. See **paragraph 3.14.1**

3.4.12. Determine the adequacy of corrosion control work cards for assigned equipment based on mission and location.

3.4.13. At units utilizing wash contractors, the wing corrosion manager must be thoroughly familiar with contract specifications, applicable technical orders, and inspection/acceptance criteria. The wing corrosion manager will be included in the coordination process of all new/updated wash contracts **(T-2).**

3.4.14. Maintain records of all approved requests for Aircraft Names, Nose Art, Tail Flashes, internal nose art, score sheets of maintained aircraft, and wing corrosion manager appointment letter. Maintain full length color photographs of all approved Aircraft Names and Nose Art, along with approval documentation. All documents will be uploaded to the HQ AMC/A4MR Fabrication Flight SharePoint site at **https://eim2.amc.af.mil/org/a4/a4m/A4MR/FAB/Corrosion%20Documents/Forms/AllItems.aspx**

3.5. Fabrication Flight Responsibilities.

3.5.1. Recommend a wing corrosion manager to the MXG/CC **(T-2).**

3.5.1.1. Forecast funding for wing corrosion control manager attendance at Corrosion Control Working Groups, CPABs, Aircraft Structural Integrity Programs (ASIPs), and other pertinent meetings as required. Ensure Fabrication representation for ASIP and CPAB conferences in person or via telecom.

3.5.2. Recommend a qualified 2A753 or above as the wash rack facility manager to ensure proper cleaning materials, equipment and supplies are maintained in accordance with applicable technical orders, AFI 21-101 and MAJCOM supplements.

3.5.2.1. Not required when utilizing contracted washes and this position is captured in the contract.

3.6. ASM Section Chief Responsibilities.

3.6.1. Ensure machines and shop equipment are maintained and inspected in accordance with T.O. 34-1-3, *Machinery and Shop Equipment* and hand/measuring tools are maintained in accordance with T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*.

3.6.2. Recommend a wing corrosion manager to the Fabrication Flight Chief.

3.6.3. Ensure a corrosion control facility housekeeping program is developed and followed in accordance with AFI 21-101.

3.6.4. Serve as the ASM technical assistant to the MXG/CCs and Command Fabrication Functional/Corrosion Manager.

3.6.5. Request depot assistance in accordance with T.O. 00-25-107, *Maintenance Assistance*, through the MAJCOM weapon system manager with an information copy to AMC/A4M, Command Fabrication Functional/Corrosion Manager, when corrosion treatment/repairs exceed T.O. limits.

3.7. Maintenance Plans, Scheduling, and Documentation (PS&D).

3.7.1. Ensure frequency-of-cleaning/wash cycles are established for assigned aircraft to maximize corrosion prevention. Monitors aircraft wash schedules to eliminate overdue washes. Unit wash cycles will not exceed the maximum wash cycles listed in T.O. 1-1-691, unless coordinated and approved in accordance with T.O 00-25-107 **(T-2).**

3.8. Aircraft Maintenance Unit Responsibilities.

3.8.1. Owning activities shall wash and clean their aircraft and SE **(T-2).**

3.8.1.1. Wing Corrosion Manager and/or ASM personnel will assist the owning activities in their corrosion prevention efforts by accomplishing scheduled corrosion inspections on aircraft, support, and test equipment **(T-2).**

3.8.2. Only ASM personnel shall perform aircraft inspection work cards specified for accomplishment by ASM in the -6 T.O. All maintenance personnel, regardless of AFSC, shall examine parts they remove for corrosion **(T-2).**

3.8.3. Coordinate and schedule the use of wash rack facilities for other than isochronal/phase washes. For locations with contracted washes, aircraft maintenance responsibilities will be performed by the wash contractor in accordance with the wash contract **(T-2).**

3.8.4. Appoint an experienced/qualified wash crew supervisor. This person will be trained according to **paragraph 3.8.7** **(T-2)**.

3.8.5. Ensure trained wash crew supervisors are present throughout the duration of aircraft washes.

3.8.6. Provide a task trained, appropriately equipped and qualified aircraft wash crew, to include as a minimum, a Dedicated Crew Chief (DCC) and/or Assistant Dedicated Crew Chief (ADCC) and personnel protective equipment within the work center.

3.8.7. The wing corrosion manager and owning unit supervisors/managers train and qualify personnel on aircraft washing and cleaning. Personnel assigned as wash supervisors, cleanliness inspectors, aircraft wash personnel and wash contractor quality assurance evaluators will complete the Aircraft Washing Procedures (Course C6ANU00TVT0001) video downloadable from **https://367catalog.hill.af.mil/** (under the heading of "Course List" choose "general" then choose the course title) **(T-2).**

3.8.8. Ensure AMC Form 1017, *Aircraft Wash Supervisor and Employee's Certification*, is completed once during the initial wash training process and when work processes equipment, materials, or conditions change.

3.8.9. Ensure a cleanliness inspection of aircraft is accomplished after completion of the aircraft wash. An owning work center supervisor (production superintendent or dock chief, as appropriate) will sign-off the cleanliness inspection **(T-2).** The key is to have supervisory personnel or production inspectors that did not participate in the wash perform the cleanliness inspection. Local requirements may be added to the checklist to enhance the unit cleanliness program.

3.8.9.1. The isochronal/phase inspection dock supervisor may accomplish the cleanliness inspection for isochronal/phase aircraft washes only.

3.8.9.2. Refer to **paragraph 3.4.13** for contracted washes.

3.8.10. After the cleanliness inspection is completed the inspector clears the AFTO Form 781A entry for "aircraft cleanliness inspection due after wash."

3.8.11. The wash supervisor ensures the facility and equipment is cleaned and properly stored at completion of each wash.

3.8.12. Maintenance personnel who remove/install aircraft panels and doors must ensure seals are serviceable and sealant applied to panels and fasteners as specified in applicable aircraft technical orders **(T-2).**

3.8.13. Maintenance personnel shall report all corrosion deficiencies through the applicable MIS in accordance with 00-20 series technical orders. Accurate documentation of maintenance actions in support of the corrosion control program is essential to support future manning, equipment requirements, training and parts/material procurement requirements **(T-2)**.

3.8.13.1. ICARR-3D Reporting (C-130 users). NDI, ASM and QA personnel shall use the Inspection, Crack/Corrosion And Repair Reporting (ICARR-3D) software to make inputs to the Automated Inspection, Repair, Corrosion, and Aircraft Tracking (AIRCAT) database for all NDI directed by technical orders; cracks and corrosion exceeding blending limits of Structural Repair Manual; and structural repairs in accordance with 1C-130A-6/1C-130J-6. Corrosion within blending limits of the Structural Repair Manual shall not be documented. This is an Aircraft Structural Integrity Program (ASIP) requirement. See **https://c130aircat.robins.af.mil/** for program instructions and information on ICARR-3D.report all C-130 discrepancies in ICARR-3D **(T-2)**.

3.9. Wash Rack Facility Manager Responsibilities.

3.9.1. Ensure fall protection equipment is available, used and maintained in accordance with AFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, to allow coverage of all surface areas of aircraft during washing operations.

3.9.2. Ensure aircraft wash rack has qualified cleaners on hand as identified in weapon system specific technical data.

3.9.3. Ensure wash rack facility and surrounding area is kept clean and properly maintained.

3.9.4. Procure personal protective equipment used during wash process. Maintains wash rack facilities and equipment in serviceable condition (i.e., water hoses, pumps, air hoses, powered wash equipment, SE, Personal Protective Equipment (PPE), etc.). This may not apply to units utilizing wash contracts.

3.10. Wash Crew Supervisor Responsibilities.

3.10.1. Provide daily safety briefings explaining hazards associated with wash rack operations.

3.10.2. Ensure aircraft wash crews are task trained and qualified by reviewing the Aircraft Wash Procedures and Preventing Landing Gear Failure videos as a minimum (video is available on the AFCPCO website) along with hands on training in accordance with T.O. 1-1-691. All training and qualifications must be documented in the personnel's training records **(T-2).**

3.10.3. Ensure proper safety equipment, PPE and cleaning materials are serviceable and properly used in accordance with AFMAN 91-203.

3.10.4. Enter the requirement for wash, signs the wash completion and enters the lubrication requirement in the AFTO Form 781A, *Maintenance Discrepancy and Work Document,* or other electronic form of documentation.

3.10.5. Ensure that fall protection is serviceable and inspected prior to use in accordance with AFI 91- 203.

3.10.6. Ensure aircraft are properly grounded as required in accordance with T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding,* and weapon system-specific technical data.

3.10.7. Inspect all wash rack equipment for serviceability (i.e. water hoses, pumps, air hoses, powered wash equipment, SE, etc.) prior to use.

3.10.8. Ensure wash rack facility, surrounding area and equipment is clean and equipment is properly stored before and after use.

3.11. QA Responsibilities.

3.11.1. Evaluate at least 10% of all aircraft washes and at least 10% of all AGE washes for compliance with applicable technical data.

3.11.2. Evaluate the quality of 10% of all aircraft and equipment corrosion inspections.

3.11.3. Periodically review wash rack cleaning agents for QPL/QPD compliance.

3.11.4. QA in concert with the Wing Corrosion Manager will ensure an acceptance inspection is accomplished on all depots, Global Reach Improvement Program, and/or other off station paints upon return to home station **(T-2).**

3.11.5. Ensure PPE is serviceable and properly utilized.

3.11.6. Contracting Officer Representative (COR) for aircraft washes will evaluate at least 10% of all aircraft washes. COR should maintain a file of discrepancies for consideration during contract rewrites. If a current contract specifies a different level of inspection than that specified herein, the contract will take precedence. Future contracts will incorporate the 10% inspection rate as a minimum **(T-2).**

3.11.7. The COR will use locally developed aircraft wash cleanliness forms and checklists to evaluate contract wash compliance **(T-2).**

3.11.8. Contract washes will be signed off by authorized personnel **(T-2).**

3.12. AGE Flight Chief Responsibilities.

3.12.1. Ensure AGE work center personnel attend corrosion training.

3.12.2. Corrosion manager, in concert with the AGE supervisor and unit maintenance training manager, will develop a corrosion prevention and control training curriculum. The AF Corrosion Prevention and Control Computer Based Training (CBT) is available on Advanced Distributed Learning Service **(T-2).**

3.12.3. The corrosion manager, in conjunction with the AGE supervisor, will determine the training interval. The training interval shall be at least annually **(T-2).**

3.12.4. Establish and enforce an effective corrosion program on assigned AGE and SE.

3.12.5. ASM and AGE supervisors determine repainting requirements.

3.12.5.1. AGE supervisors will score the corrosion condition annually during periodic scheduled maintenance inspections and the score sheets will be retained in a historical file for each piece of equipment. A locally developed tracking system will be used to annotate the scores using categories 1-4 as outlined in T.O. 35-1-3, Table 3-2. The locally developed tracking sheet will be uploaded to the HQ AMC/A4MR Fabrication Flight SharePoint site for AMC/A4M oversight.

3.12.5.2. Complete over coating of equipment is accomplished on an as needed basis. AGE will not be over coated solely for cosmetic purposes unless the AGE Flight Chief and Fabrication Flight Chief determine it is required.

3.12.5.2.1. Complete over coating of equipment may be accomplished to apply the new equipment standard color (26173 FED-STD-595, MIL-PRF-85285). However, this shall be accomplished on the units' regular corrosion schedule and equipment will be aligned with the new scheme on an attrition basis.

3.12.6. Owning work center personnel may treat small chips in the paint with Corrosion Prevention Compounds (CPC) listed in T.O. 35-1-3. For more permanent repairs of small chipped areas, use authorized coating systems that are contained in items such as but not limited to: SEMPENS, Preval compressed air spray packs, Clip-Pacs, Brush and Roller, or Akzo Nobel's Spray 2 Fix aerosol can. Larger areas will be treated by the aircraft structural maintenance work center or if applicable, contracted sources **(T-2).**

3.12.6.1. Units will familiarize themselves with AGE painting materials and processes in accordance with T.O. 35-1-3 prior to awarding off-base contracts to get AGE painted. Units will verify specifications for primer and topcoat, and color number requirements and ensure that these are addressed in the contract **(T-2).**

3.12.7. AGE SE will be painted in accordance with T.O. 35-1-3 **(T-2).**

3.12.8. Ensure an automated system is used to schedule and document AGE painting. A historical entry will be made into the automated system upon complete repainting of equipment **(T-2).**

3.12.9. Enforce the proper use of approved cleaning compounds in accordance with T.O. 35-1-3 and the QPL or QPD.

3.13. Aircraft Cleaning.

3.13.1. A complete exterior and interior cleaning will be accomplished on all aircraft in accordance with T.O. 1-1-691 and weapon system-specific technical data. This will be accomplished during scheduled wash cycles, before isochronal or phase inspections, and prior to refurbishments **(T-2).**

3.13.1.1. The following forms entries, as a minimum, are required for an aircraft wash:

3.13.1.1.1. "Aircraft wash required." Enter this in the forms on a red dash. It is cleared by the owning unit aircraft wash supervisor.

3.13.1.1.2. "Aircraft taped and prepped for wash." Enter this in the forms on a red X prior to the wash. It is cleared by the appropriate inspector after the aircraft has been de-taped, all associated equipment (such as wheel covers) is removed and associated tasks are accomplished, and the cleanliness inspection has been completed and signed-off.

3.13.1.1.3. "Aircraft post-wash cleanliness inspection due." Enter this in the forms on a red dash prior to the wash. It is cleared by the owning unit maintenance supervisor, production supervisor, or authorized contractor after completion of the cleanliness inspection. **Note:** Definition of clean: Surfaces shall be deemed "clean" after satisfactory completion of the following method: Accomplish a close visual inspection to determine if all residue, oily film, and streaking has been removed. If cleanliness is questionable, a dry, lint free, white towel is wiped firmly across the various surfaces. If excessive soiling of the towel occurs, the surface is not clean. Wheel wells, flap wells, and exterior surfaces should be inspected using this method **(T-2).**

3.13.1.1.4. "Aircraft post-wash lubrication due." Enter this in the forms on a red dash. It is cleared by the appropriate maintenance person responsible for ensuring task completion.

3.13.1.1.4.1. Proper post-wash lubrication is vital in prevention of corrosion. Lubrication prevents water intrusion in bearing cavities and subsequent corrosion damage. If technicians wash components between normal cleaning cycles (flight line or "spot" washes), re-lubrication of the affected components is required.

3.13.1.2. If organizations know in advance that their aircraft or SE is scheduled to deploy, they must ensure aircraft and equipment washes are considered prior to mission deployment. If a wash was recently accomplished, the owning organization maintenance supervision will determine whether another wash is necessary prior to deployment **(T-2).**

3.13.1.2.1. When an aircraft flies over salt water below 3,000 feet, the aircrew debriefing record and AFTO Form 781A will be annotated with a "NOTE". See T.O. 1-1-691 for complete guidance. Aircraft properly rinsed in taxi-through, or "bird bath" type facilities, need not comply with this requirement **(T-2).**

3.13.2. Aircraft latrine/urinal areas must be cleaned thoroughly to avoid corrosion damage due to effluent contamination **(T-2).**

3.13.3. Interior areas will be dried after washing. Any method, such as low-pressure air, low temperature heat, or sponging/mopping, may be used. Standing water in any interior area of the aircraft must be removed **(T-2).**

3.13.4. Pressurized water washing equipment, if authorized by the applicable system program office, may be used for aircraft washing in accordance with T.O. 1- 1-691 and manufacturer's instructions. However, all surfaces must be agitated with an authorized pad or other article. Pressure washing alone will not adequately remove contaminants from painted surfaces **(T-2).**

3.13.4.1. Lubrication must be accomplished after all pressure washes in accordance with applicable technical data **(T-2).**

3.13.4.2. All landing gear components will be hand washed and rinsed with low-pressure water. Refer to applicable landing gear technical orders for washing instructions **(T-2).**

3.14. Corrosion Prevention and Control Training.

3.14.1. All aircraft maintenance personnel will receive general corrosion prevention and identification refresher training at least annually, they will also receive local and unique corrosion awareness training. Ensure sufficient training opportunities are provided for classic associate unit personnel during Unit Training Assembly days. Training will be a combination of Interactive Multimedia Instruction (IMI) and local and unique corrosion awareness training will be developed by the Wing Corrosion Manager.

3.14.1.1. IMI Training will consist of the Corrosion Control Familiarization Course 1 downloadable from **https://www.youtube.com/watch?v=EHMW0_iKzPs**. Video can also be found on the Air Force Corrosion Prevention and Control Office (AFCPCO) website at **https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t88B4F00B441D422B014427477A10019B&channelPageId=s6925EC133EFE0FB5E044080020E329A9**.

3.14.1.2. AFSC 2A7X3 (ASM) personnel and/or equivalent are exempt from periodic corrosion familiarization training.

3.14.1.3. En-route personnel must accomplish the IMI but are exempt from the supplemental training **(T-2).**

3.14.2. If group block training method is used, supplemental training is conducted by the Wing Corrosion Manager or designated representative holding a primary AFSC of 2A773 or 2A790. If block or refresher training is done on an individual basis, the supplemental training should be self-supporting; such as a short video, PowerPoint presentation, or other medium that the individual can review.

3.14.3. The corrosion manager, in conjunction with the unit maintenance training manager, develops formal classroom training curriculum. As a minimum, the curriculum will include: **(T-2).**

3.14.3.1. Corrosion identification procedures and techniques using the most current available Air Force aircraft corrosion visual training aids and information.

3.14.3.2. Identification of corrosion prone areas on unit specific weapon systems and equipment.

3.14.3.3. Reporting and documentation procedures for identified corrosion.

3.14.3.4. Importance of proper selection and use of sealants, CPC, and lubricants.

3.14.3.5. Proper selection and use of all cleaning materials.

3.14.4. The corrosion manager periodically updates training material and information with the assistance of the unit maintenance training manager and information gained from CPABs and corrosion manager's conferences.

3.14.5. Periodic corrosion training does not replace normal on-the-job training requirements in any career field.

3.15. Propulsion Flight/Element Responsibilities.

3.15.1. Establish a statement of work with the Fabrication Flight Chief defining the local repair process. Ensure personnel are trained in the tasks required to complete composite repairs in the T.O. 1-1-690, *General Advanced Composite Repair Processes Manual*, and applicable technical data.

3.15.2. Establish a maintenance plan to ensure work being accomplished is safe and has bioenvironmental approval. Follow Unified Facilities Criteria 4-211-02, *Aircraft Corrosion and Paint Facilities*, guidance for proper exposure controls to personnel.

Chapter 4

GENERAL INFORMATION

4.1. Aerospace Vehicle Coating and Marking Requirements.

4.1.1. Coating System Scoring and Maintenance. All units will score aircraft coating systems to determine frequency of topcoat application **(T-2).**

4.1.1.1. Scoring will be accomplished as required during each Isochronal Inspection (ISO), Home Station Check, A-Check, all transfers, and upon return from depot maintenance **(T-2).**

4.1.1.2. The exterior of aircraft must be clean prior to paint scoring. Supervisors will use ratings to determine corrosion treatment/paint scheduling priority **(T-2).**

4.1.1.3. Units will adopt maintenance-painting techniques (i.e. spot painting and sectionalized painting as stated in T.O. 1-1-8) to maintain aircraft corrosion protection and appearance between overcoats.

4.2. Equipment Inspections.

4.2.1. All sections within the Fabrication Flight are authorized to utilize Process Control Automated Management System (PCAMS). It can be utilized to track maintenance, inspections, and discrepancies for shop equipment. PCAMS can be found on the NDI AF Portal website.

4.3. Precision Cutting Tools.

4.3.1. Precision cutting tools (i.e. drill bits, reamers, taps, dies, end mills, etc.) are manufactured from high speed steel (HSS), solid carbide or tool steel in order to achieve high hardness and wear resistance in accordance with T.O. 1-1A-9, *Aerospace Metals*. Manufacturer produced close tolerance cutting tools must adhere to National Aerospace Standards (NAS) (e.g. twist drills and reamers IAW Appendix C of T.O. 1-1A-1, *Engineering Handbook Series for Aircraft Repair, General Manual for Structural Repair*).

4.3.2. Manufacturer produced surface finishes are critical to the reduction of fatigue and stress. In accordance with T.O. 33B-1-1, any discontinuities marked into the tool (e.g. grinding, etching, stamping, etc.) will subject the tool to fatigue cracking and/or change tool run-out, resulting in premature tool failure, inaccurate airframe structure modifications, imprecise manufactured aircraft parts and/or damage to aircraft.

4.3.2.1. Unique or special circumstances apply to the management requirements of close tolerance, accurate, precision cutting tools, in accordance with AFI21-101 paragraphs 8.6.1.6 and 8.6.3.

4.3.2.1.1. Do not vibratory etch these tools, laser etching is appropriate however do not mark the shaft area of any arbor type tools as chuck slippage will remove the EID. When laser etching is not practical, these tools will follow the marking and identification procedures in accordance with AFI21-101 paragraph 8.3.6.6 and 8.6.4.1.

4.3.2.2. Non-dispatchable industrial shop machinery accessories and attachments are managed in accordance with AFI21-101 paragraphs 8.3.7 and 8.3.8.2.

Chapter 5

AIRCRAFT MARKING POLICY

5.1. Paint Schemes/Configurations and USAF Standard Markings.

5.1.1. Paint schemes/configurations and USAF standard markings will be applied in accordance with the applicable aircraft technical order, aircraft drawings, T.O. 1-1-8 and this instruction. All aircraft markings will be maintained intact, legible, and distinct in color (not faded). Command standardization of markings by mission design series (MDS) is of primary concern.

5.2. Standard Markings Deviations and Waivers.

5.2.1. Waiver submissions must comply with internal standard MAJCOM policy and procedures before submittal to HQ USAF/A4, in accordance with T.O. 1-1-8 and T.O. 00-5-1.

5.2.1.1. WG/CC must submit waiver requests to the AMC/A4Q Weapon System Manager (WSM) and AMC/A4M Command Fabrication Functional/Corrosion Manager. Waivers that are in violation of aircraft technical data will not be accepted. Waiver requests must include the following:

5.2.1.1.1. Clear statement of present procedure/marking.

5.2.1.1.2. Clear statement of proposed change.

5.2.1.1.3. Justification to include historical significance, if applicable.

5.2.1.1.4. Digital color photographs, one of present marking and one of requested change. The use of a slide presentation format is allowed.

5.2.2. Deviations from standard markings are authorized for 89 Air Wing aircraft when approved by HQ USAF.

5.3. Exterior Markings / Coatings.

5.3.1. All aircraft markings will be maintained intact, legible, and distinct in color (not faded). Command standardization of markings by MDS is of primary concern **(T-2).**

5.3.2. All exterior aircraft markings must match the gloss level of the basecoat. No approved diffuse clear coats are available; low-gloss materials must be used for all markings on aircraft with lusterless paint schemes **(T-2).**

5.3.3. Operational markings and structural coating/corrosion maintenance will take precedence over cosmetic refinements; markings, such as nose art, tail flash, and DCC names should be considered lowest priority work **(T-2).**

5.3.4. When large sections of an aircraft are repainted (i.e. entire wing, fuselage, or empennage) they will be documented in applicable MIS and the individual AFTO Form 95 **(T-2).**

5.3.4.1. Review applicable weapon system technical data for Weight and Balance (W&B) requirements.

5.4. Aircraft Mandatory Markings.

5.4.1. Letters and Numerals. These markings may be applied using any style letter/numeral (font) deemed appropriate by the WG/CC. Size and location must remain standardized for all wing-assigned aircraft **(T-2).**

5.4.2. Standard Air Force Markings. Mandatory markings will be applied in accordance with T.O. 1-1-8, weapon system drawings, if applicable, weapon system specific T.O. and the applicable table in this instruction. **Table A2.1** through **Table A2.6** in **Attachment 2** list the size, location and color of markings by aircraft type. For identification, placement, and color of mandatory markings other than those identified in this instruction, refer to the weapon system technical orders and system drawings **(T-2).**

5.4.3. US Flag. Paint may be used only when high-quality templates or silk-screen processes are used. Flag decals can be obtained by going online to the Defense Logistics Agency (DLA) Document Services website at **https://www.dso.documentservices.dla.mil**. Customer support may be reached at 1-866-736-7010. Flag decals may be purchased with the International Merchant Purchasing Authorization Card. There is no form number or part number for flag decals; therefore a "short title" should be used. The short title is either "21-inch by 40-inch Matte Finish Flag Decal" or "24-inch by 48-inch Matte Finish Flag Decal," as applicable. Flag decals have a one-year shelf life. For best results, use 3M edge sealer part # 4150 (designed for polyester decal films).

5.4.4. Standard AMC Markings (reference **Table A2.1** through **Table A2.6**).

5.4.4.1. Command Insignia (Emblem).

5.4.4.2. "AMC" Tail Letters.

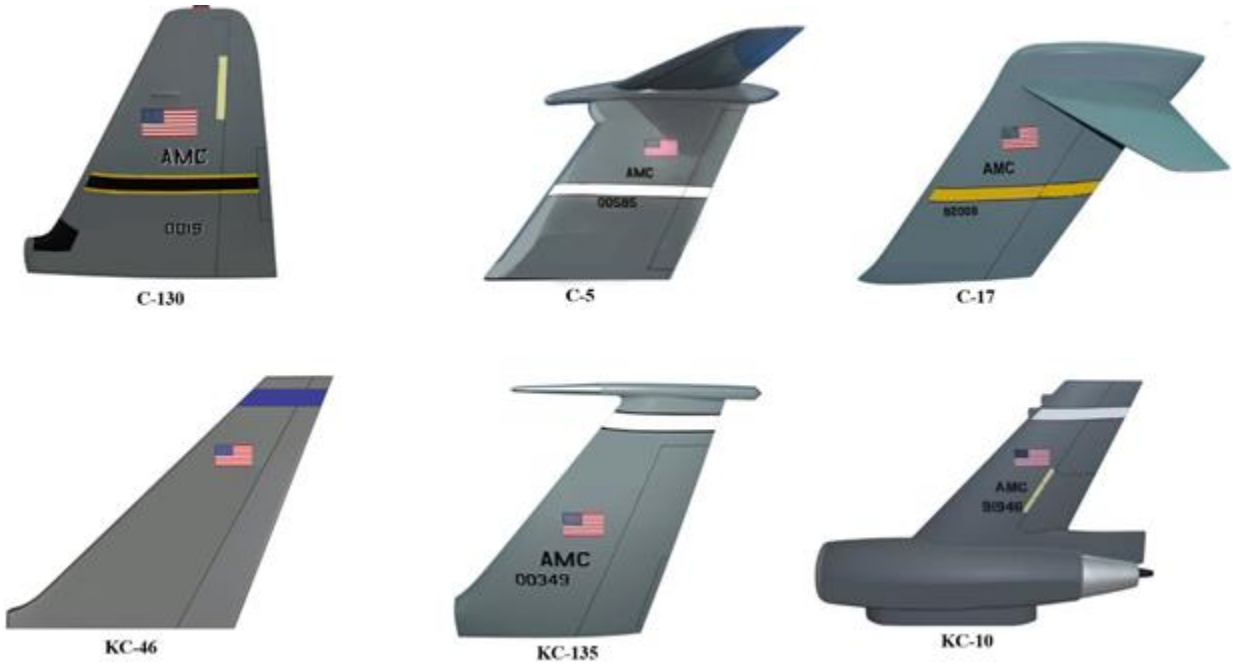
5.4.4.3. AMC Tail Stripes.

5.4.4.4. Parent Wing Unit Identifier.

5.4.4.5. Air Force Reserve Command Associate Wing Unit Designator and Emblem. Active duty units with attached AFRC associate wings will apply the AFRC emblem and reserve unit identifier on their aircraft **(T-2).**

5.4.4.6. AMC ethos statement shall be applied to wing pride aircraft on the forward left fuselage area in vinyl or paint utilizing Helvetica Medium. Please contact AMC Corrosion Program Manager for current AMC ethos statement **(T-2).**

Figure 5.1. Typical AMC Tail Configurations.



5.5. Optional Markings.

5.5.1. When used, the following optional markings will be applied in accordance with the applicable tables in this instruction. Changes/standardization of optional markings may be done on an attrition basis to minimize workload, aircraft availability, and environmental impact. **Table A2.1** through **Table A2.6** in **Attachment 2** list the size, location and color of markings by aircraft type **(T-2).**

5.5.2. Approval Authority for Optional Markings. Final approval for all permanent optional markings will come from the Command Fabrication Functional/Corrosion Manager and AMC/A4. All levels of supervision have the responsibility to review the markings for tastefulness, appropriateness, and adherence to copyright laws.

5.5.2.1. Nose Art. E-mail request with WG/CC approval, local Public Affairs and Wing Historian coordination using the AF Form 1768, *Electronic Staff Summary Sheet*, justification, the design, and tail number to **AMC.A4MR.Fabrication@us.af.mil** for first coordination with Command Fabrication Functional/Corrosion Manager. Once approved the WG/CC will route official request to AMC-CS through Task Management Tool (TMT), including all documents for final approval from A4.

5.5.2.1.1. Temporary Nose Art. Award ceremony aircraft displays with temporary nose arts (Knuckle Buster, Wing awards, etc.) do not need approval from HQ AMC, however these marking will need WG/CC and local Public Affairs approval. Once units have received approval, WG/CC will send all documentation to **AMC.A4MR.Fabrication@us.af.mil** for Command Fabrication Functional/Corrosion Manager records. Timeline for applied temporary markings is no longer than 24 hours. Aircraft with temporary markings will not fly until temporary markings have been removed **(T-2).**

5.5.2.1.2. Internal Nose Art. E-mail WG/CC approval, justification, design, photos, and tail number to **AMC.A4MR.Fabrication@us.af.mil** for the Command Fabrication Functional/Corrosion Manager review. The WG/CC (with their respective Public Affairs review) and the Command Fabrication Functional/Corrosion Manager must both approve the internal nose art. No alterations to the aircraft frame will be made to accommodate internal nose art. Examples of approved internal nose art are; flags, family photos, paintings, rugs, latrine paint schemes, crew placards with nicknames. **Exception: paragraph 5.5.10.3** still stands as no external nicknames allowed. **(T-2).**

5.5.2.2. Tail Flash. E-mail request with WG/CC approval, local Public Affairs and Wing Historian coordination using the AF Form 1768, *Electronic Staff Summary Sheet*, justification, the design, and tail number to **AMC.A4MR.Fabrication@us.af.mil** for first coordination with Command Fabrication Functional/Corrosion Manager. Once approved the WG/CC will route official request to AMC-CS through TMT, including all documents for final approval from A4.

5.5.3. Operational markings and structural coating/corrosion maintenance will take precedence over cosmetic refinements; markings, such as nose art, tail flash, and DCC names should be considered lowest priority work **(T-2).**

5.5.4. Letters and Numerals. These markings may be applied using any style letter/numeral (font) deemed appropriate by the WG/CC. Size and location must remain standardized for all wing-assigned aircraft **(T-2).**

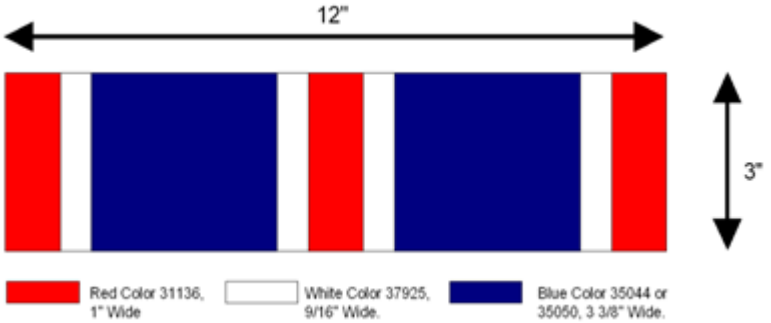
5.5.5. Nose Art. Nose art is authorized on one aircraft per flying squadron, plus the wing pride aircraft. Additionally, one aircraft per wing may have the "Let's Roll" graphic applied as nose art (not to exceed three feet in diameter); it may be on one of the above aircraft, or in addition to the above aircraft. Nose art is not permitted on any aircraft flying missions where local populations may consider it sensitive or offensive. Art will reflect a theme of civic and community pride, be distinctive, symbolic, and designed and maintained to the highest quality standards. Positioning of nose art is at the discretion of the WG/CC; however, it must be forward of the wing leading edge and not interfere with any mandatory markings. Nose art should be approximately two-thirds the size of the fuselage national star insignia, not to exceed three feet in diameter. All nose art applied to wing aircraft will be of standard size and location. Nose art and tail flash designs must be approved prior to installation **(T-2).**

5.5.5.1. On aircraft with lusterless paint schemes, nose art and tail flash must be applied using lusterless paint and/or decals **(T-2).**

5.5.6. Aircraft Names. Aircraft Names are authorized on AMC aircraft only after approval by USAF/CV. The proposed name must either have a national or military theme or honor a locale adjacent to an AMC base or aircraft manufacturing point. Route recommendations through your WG/CC to AMC-CS TMT; include the proposed name and detailed justification. If applied in addition to nose art, the aircraft name and nose art must be complementary; the font, size, and location may be changed to complement the nose art **(T-2).**

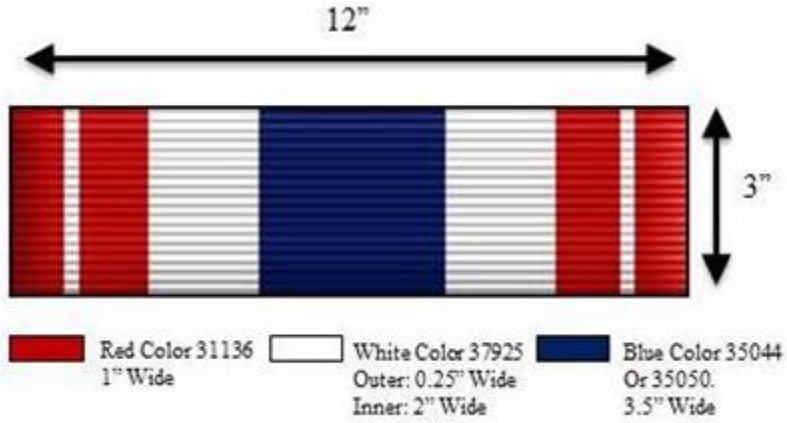
5.5.7. Air Force Outstanding Unit Award. The Air Force Outstanding Unit Award (AFOUA) may be applied if applicable. AFOUA decals, with and without oak leaf clusters, are available from **https://www.dso.documentservices.dla.mil**.

Figure 5.2. Outstanding Unit Award.



5.5.7.1. Air Force Meritorious Unit Award (MUA) may be applied immediately adjacent to the AFOUA if applicable.

Figure 5.3. Meritorious Unit Award.



5.5.8. Boom Elevator Markings. Boom elevator markings may be applied in accordance with the appropriate table, weapon system specific T.O., and/or weapon system drawings with the approval of the WG/CC.

5.5.9. Wing Pride Aircraft. Each WG/CC may designate one aircraft to be the wing pride aircraft; this aircraft is authorized the additional markings stated below.

5.5.9.1. WG/CC or WG/CV names and Group Commander's names (list all group commanders or none) may be used in place of the DCC names. The wing designator may be included in the name block. Prior to deployment or flight into a combat zone (including transient aircraft), all names will be removed from the aircraft **(T-2).**

5.5.9.2. Tail Flash may contain colors/numbers of all squadrons assigned to the wing, but must remain within the tail band stripes specified in the applicable table. Refer to section **5.3 (T-2).**

5.5.9.3. Wing mascot/logo may be applied as nose art (in addition to the one per flying squadron), **paragraphs 5.5.5** and **5.5.5.1** apply.

5.5.10. DCC/ADCC. If elected, DCC and ADCC names will be applied in accordance with T.O. 1-1-8 and placed on interior placards or exterior of the aircraft. The preferred method is

to apply and remove decals utilizing appropriate vinyl. This will allow all units to participate in the DCC program. See **Attachment 2**, **Table A2.1** through **Table A2.6**. Units will be consistent when selecting interior or exterior placards.

5.5.10.1. Transient aircraft, as defined in T.O. 00-20-1, are not deployed and are not subject to the combat deployment sanitization requirement in accordance with T.O. 1-1-8. Aircrew and DCC/ADCC exterior name markings are authorized to remain on aircraft when transiting a combat zone **(T-3).**

5.5.10.2. Aircraft that are deployed to operate from a location in a combat zone will adhere to the combat deployment sanitization requirement in accordance with T.O. 1-1-8. MAJCOM/A4, WG/CCs and MXG/CCs are authorized to direct the removal of all names for the duration of contingency operations.

5.5.10.3. The name will consist of the abbreviated rank, first initial, and last name. The use of an individual's middle initial is optional. For extremely long names, it is permissible to use smaller letters to accommodate the entire name **(T-2).**

5.5.10.4. Nicknames are not authorized. Size and font are at the MXG/CC's discretion; size not to exceed 2 ½ inches; standardized within the wing. Unit mascot graphics (i.e., razorback and eagle head [outlines or silhouettes]) may be used as the forward edge of the placard or crew chief block. For standardization purposes, either all or none of the wing aircraft will bear the graphic **(T-2).**

5.5.11. Wing/Squadron/Aircraft Maintenance Unit Colors. Each operational squadron may have its colors and/or logos applied within the boundaries of the tail stripes, or the entire wing may share one tail stripe design. Refer to **paragraph 5.3**

5.6. Competition Aircraft.

5.6.1. Units participating in competitions will follow the guidelines established in competition rules for aircraft appearance. Competitions should be considered "come as you are" and no waivers will be granted. "Come as you are" is defined as no special effort, painting, or additional markings applied to enhance or improve the overall appearance of the aircraft. This includes polishing of metal surfaces, using commander type markings, etc. **(T-2).**

5.7. Aircraft Transfer.

5.7.1. The following markings must be removed prior to formal transfer of aircraft to other units or MAJCOMs (aircraft retiring to Aerospace Maintenance and Regeneration Group need not have any markings removed). Deviations from transfer requirements are authorized provided the gaining and losing units reach a mutual agreement **(T-3).**

5.7.1.1. Organizational insignias.

5.7.1.2. Unit identifier.

5.7.1.3. Tail stripe.

5.7.1.4. Aircrew and crew chief names.

5.7.1.5. Unit unique markings.

5.7.1.6. Nose art.

5.8. Waivers.

5.8.1. WG/CC must submit waiver requests to their Weapons System Manager and courtesy copy AMC/A4M, Command Fabrication Functional/Corrosion Manager. Waivers that are in violation of aircraft technical data will not be accepted. Waiver requests must include the following: **(T-2).**

5.8.1.1. Clear statement of present procedure/marking.

5.8.1.2. Clear statement of proposed change.

5.8.1.3. Justification to include historical significance, if applicable.

5.8.1.4. Digital color photographs, one of present marking and one of requested change. The use of a slide presentation format is allowed.

5.9. Photo Requirements.

5.9.1. All units must submit one full length (landscape orientation) digital photo of each aircraft that has been approved for any or all of the following: "Let's Roll" markings, nose markings, names, and tail flashes. The use of a slide presentation format is allowed. Send to AMC/A4M for review and file along with uploading approved documents to the HQ AMC A4/MR Fabrication Flight SharePoint site. AMC/A4M may request updated photos periodically **(T-2).**

RICHARD W. GIBBS, Brigadier General, USAF
Director of Logistics, Engineering, and Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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TO 1-1-689-3, *Cleaning and Corrosion Control Volume III Avionics and Electronics,* 15 January 2016

TO 1-1-690, *General Advanced Composite Repair Processes Manual*, 08 November 2016

TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment,* 29 September 2018

TO 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment,* 10 August 2018

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TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools*, 26 April 2017

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AFI33-322, *Records Management and Information Governance Program*, 22 March 2020

AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry,* 04 Oct 2011

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Prescribed Forms

AMC Form 1017*, Aircraft Wash Supervisor and Employee's Certification*

Adopted Forms

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AFTO Form 781A, *Maintenance Discrepancy and Work Document*, 28 June 2017

AFTO Form 95, *Significant Historical Data*, 11 April 2013

AF Form 1768, *Staff Summary Sheet*, 01 Sep 1984

AF Form 847, *Recommendation for Change of Publication*, 22 September 2009

Abbreviations and Acronyms

ADCC—Assistant Dedicated Crew Chief

AFCPCO—Air Force Corrosion Prevention and Control Office

AFOUA—Air Force Outstanding Unit Award

AGE—Aerospace Ground Equipment

ALC—Air Logistics Center or Air Logistics Complex

AM—Additive Manufacturing

AMC—Air Mobility Command

AMT—Aircraft Metals Technology

ANG—Air National Guard

ASIP—Aircraft Structural Integrity Program

ASM—Aircraft Structural Maintenance

COR—Contracting Officer Representative

CPAB—Corrosion Prevention Advisory Board

DCC—Dedicated Crew Chief

FRP—Fuselage Reference Plane

IMI—Interactive Multimedia Instruction

IPT—Integrated Process Teams

MAF—Mobility Air Forces

MDS—Mission Design Series

MIS—Maintenance Information System

MTO—Metals Technology Office

NAS 410—National Aerospace Standard Certification & Qualification of Nondestructive Test Personnel

NDI—Nondestructive Inspection

OAP—Oil Analysis Program

OWS—Outer Wing Station

PCAMS—Process Control Automated Management System

PE—Personal Evaluation

PIT—Product Improvement Team

POC—Point of Contact

POM—Program Objective Memoranda

PPE—Personal Protective Equipment

QA—Quality Assurance

QPD—Qualified Product Database

QPL—Qualified Products Listings

RVSM—Reduced Vertical Separation Minimum

SE—Support Equipment

SMR—Source Maintenance, and Recoverability

SPO—System Program Office

TAR—Technical Assistance Request

TDP—Technical Data Package

U&TW—Utilization and Training Workshop

VSS—Vertical Stab Station

W&B—Weight and Balance

WSM—Weapon System Manager

Attachment 2

MARKING LOCATION BY AIRFRAME

Table A2.1. C-5 Markings.

Note: Reference Drawings 201211891 (exterior finishes) and 201211892 (exterior markings) for additional information.

Marking	Location	Size	Color/Finish
United States Flag	Both sides of vertical stabilizer, bottom of flag on WL 626, top of flag horizontally centered between the 10 percent chord front beam and the 64 percent rear chord beam. (European One and White Cap; leave flag where currently positioned.)	Matte: 24 X 48 inches Gloss: 31.5 X 60 inches	Matte finish
"AMC" Tail Marking	Both sides of vertical stabilizer, top of letters 12 inches below bottom of flag. Top of letters will be horizontally centered between the 10 percent chord front beam and the 64 percent rear chord beam.	18 inches	37038
Tail Band Stripes	2-inch upper stripe located 12 inches below bottom of "AMC". 2-inch lower stripe located 18 inches down from bottom of upper stripe. Stripe will run horizontally from aft edge of the leading edge seam, back to trailing edge of the rudder.	As required	37038
Radio Call Numbers	Both sides of vertical stabilizer, top of numbers located 12 inches below bottom of lower stripe. Top of numbers will be horizontally centered between the 10 percent chord front beam and the 64 percent rear chord beam.	18 inches	37038
Local Station Numbers (last 4 digits of aircraft serial number)	Both sides of fuselage, top of numbers grounded on stringer 12 on left side and stringer 11 on right side of fuselage, forward edge of number 9 inches aft of nose seam.	12 inches	37038

Super Galaxy	C-5M only, Tail Stripes: 2.0 inch upper stripe located 12.0 inches below tail numbers; 2.0 in lower stripe located 18.0 in below upper stripe. Stripes run horizontally from leading edge seam to leading edge of the rudder center "Super Galaxy" between stripes.	2 inches (width)	37038
Air Mobility Command	Bottom of visor with "Y" in "mobility" centered above antenna.	10 inches	37038
Unit Identifier	Both sides of the fuselage, centered under identification number. Top of numbers and letters located 10 inches below bottom of identification numbers.	10 inches	37038
Associate Unit Identifiers	Both sides of the fuselage, centered under unit identifier. Top of letters and numbers located 6 inches below bottom of unit identifier.	10 inches	37038
Air Force Outstanding Unit Award	Centered on door, bottom of decal 3 inches above the crew entry door.	See **Figure 5.2.**	See **Figure 5.2.**
Crew Chief Block	Exterior: Left side of fuselage only, 6 inches below and centered on the command emblem.	MXG/CC discretion	37038 See paragraph **5.5.10.**
Aircraft Name	Left side of fuselage may be one or two lines. Vertical Position: Centered on AMC emblem. Horizontal Position: Beginning of first letter in line with the beginning of the "O" in U.S. Air Force.	10 inches	37038
Command Emblem	Both sides of fuselage, top of emblem placed 2 inches below clear view window, aft-most portion placed 2 inches forward of window centerline.	34 inches	As required.

AFRC Emblem	Both sides of fuselage. Located aft of AMC emblem with 4 inches between the aft-most edge of AMC emblem and leading edge of AFRC emblem. Top of AFRC emblem even with top of AMC emblem.	34 inches	As required.
National Star Insignia Outline	Both sides of fuselage, centered 59 inches aft.	50 inches of FS 1964 on WL 258.	37038

Table A2.2. C-17 Markings.

Note: Refer to USAF Paint Drawing			
Marking	**Location**	**Size**	**Color/Finish**
United States Flag	Bottom of flag is located 42 inches above top edge of the upper tail band stripe, with the top forward corner of the flag located 1 inch from the VOR/LOC-2 antenna, same location both sides of vertical stabilizer.	24 X 48 inches	Matte finish
"AMC" Tail Marking	Bottom of letters are located 12 inches above top edge of the top tail band stripe and centered on an (invisible) vertical line drawn parallel with vertical stabilizer trailing edge that intersects the center of the flag, same location both sides.	18 inches	37038
Tail Band Stripes	2-inch stripes, top of upper stripe located at vertical stabilizer coordinate ZV134. Top of lower stripe is located 18 inches below bottom of upper stripe. Stripes run horizontally from aft edge of leading edge seam to trailing edge of rudder both sides.	As required	37038

Radio Call Numbers	Both sides of vertical stabilizer, top of numbers located 12 inches below bottom of lower tail band stripe, centered on an invisible vertical line drawn parallel with the vertical stabilizer trailing edge, intersecting center of the flag.	18 inches	37038
Unit Identifier	Both sides of fuselage, centered on the identification number, top of numbers 6 inches below bottom of the identification numbers.	10 inches	37038
Associate Unit Identifier	Both sides of fuselage, centered on AMC unit identifier, top of numbers 6 inches below bottom of AMC unit designator.	10 inches	37038
AF Outstanding Unit Award	Centered 3 inches above crew entry door.	See **Figure 5.2.**	See **Figure 5.2.**
Command Emblem	Both sides of fuselage, center of emblem located 50 inches forward of STA 450.250 skin splice, top of emblem located 1.5 inches below longeron L-25 beauty strip.	34 inches	As required
AFRC Emblem	Located aft of command emblem with 17.50 inches between aft edge of AMC command emblem and leading edge of AFRC emblem (17.50 inches at nearest point), top of emblem even with top of AMC emblem.	34 inches	As required
Crew Chief Block	Left side of fuselage only. Centered between aft edge of crew entrance door and fuselage light hinge. Bottom of block located 6 inches above top of beef-up band	MXG CC discretion	37038 See paragraph **5.5.10.**

Aircraft Name	Centered horizontally on the crew entry door. Bottom of marking 11 inches from top of door. Use Century Schoolbook font on two lines…arranged into a football shape.	Length of marking should be between 55 and 65 inches.	37038
Local Station Numbers (last 4 digits of the aircraft serial number)	Both sides of fuselage, centered below the lower aft corner of the down view window, with the top of the numbers on fuselage coordinate Z-192.	18 inches	37038
National Star Insignia Outline (Fuselage)	Both sides of fuselage, centered on the centerline of the aft fuselage formation light, with the insignia leading edge located 6 inches aft of the light.	30 inches	37038
U.S. Air Force Marking	Both sides of fuselage, located 12 inches aft of fuselage station 227.500 and 35.38 inches above longeron 1-25.	24 inches	37038

Table A2.3. C-130J Markings.

Note: Refer to USAF Paint Drawing 201122423 and Exterior Markings Drawing # 201122424 for C-130J aircraft.			
Marking	**Location**	**Size**	**Color/Finish**
United States Flag	Both sides vertical stabilizer, top of flag located at vertical stab station (VSS) 178, 15 inches forward of the rudder.	24 X 48 inches	Matte finish
"AMC" Tail Marking	Both sides of vertical stabilizer, top of letters located at VSS 142 and centered under flag.	12 inches	37038

Tail Band Stripes	2-inch upper stripe located 10 inches below bottom of "AMC," 2-inch lower stripe located 12-inches below bottom of upper stripe. Top horizontal stripe will run from 25 inches forward of leading edge seam to trailing edge of rudder, not to extend onto rudder trim tabs; bottom stripe will run from 27 inches forward of leading edge seam to trailing edge of rudder.	As required	37038
Radio Call Numbers	Both sides of vertical stabilizer, top of numbers located 10 inches below bottom of lower tail band stripe, centered under flag.	15 inches	37038
Local Station Numbers (Last 4 digits of aircraft serial number)	Placed on both sides of fuselage, 23 inches aft of pilot's kick window. Bottom of marking parallel to bottom of pilot's kick window.	6 inches	37038
"U.S. AIR FORCE" Fuselage Marking	Both sides of forward fuselage 14 inches aft of the window frame and horizontally level with the lower window.	15 inches	37038
Unit Identifier	Both sides of fuselage, 6 inches below local station numbers. Forward edge of unit identifier to be in line with first digit of local station numbers. **Note:** Ensure markings do not migrate into the Reduced Vertical Separation Minimum (RVSM) area.	6 inches	37038
Air Force Outstanding Unit Award	Centered 3 inches above crew entry door.	See **Figure 5.2.**	See **Figure 5.2.**
Crew Chief Block	Left side of fuselage only, 2 inches forward of crew entry door in line with top door seam	MXG/CC discretion	37038 See paragraph **5.5.10.**
Command Emblem	Both sides of fuselage, top of emblem level and even with top edge of side hatch, center of patch is 128" forward of side hatch forward edge (approximately FS 277.0E). (Long J model only)	24 inches **Short Models no command emblem required**	As required.

National Star Insignia Outline	Both sides of fuselage; see applicable USAF drawing.	30 inches	37038
Ice Detection Marking	Installed on both wing leading edges, beginning at Outer Wing Stations (OWS) 517.0 and extending outboard and ending at OWS 541.0. Chordwise dimension equals 12 inches on upper and lower surfaces of leading edge.	24 X 24 inches	37038
Armament Block	Located 6 inches aft of the crew entry door, 6 inches below upper crew door frame.	16 X 10 inches	37038

Table A2.4. KC-10 Markings.

Marking	Location	Size	Color/Finish
Tail Band Stripes	Top of upper 2-inch stripe will be 18 inches down and parallel to V476.250; top of lower 2-inch stripe will be located 12 inches below the bottom of the upper stripe.	As required	37038
US Flag	Both sides of vertical stabilizer, 100 inches up from ZID 92.5, grounded on aft spar. (White Cap paint scheme will leave existing painted-on flag in place.)	24 X 48 inches	Matte finish
"AMC" Tail Marking	Both sides of vertical stabilizer, top of letters 20 inches below bottom of flag, grounded on aft spar.	12 inches	37038
Radio Call Numbers	Both sides of vertical stabilizer. Top of numbers 20 inches below bottom of "AMC" tail marking grounded on aft spar plane.	12 inches	37038
Unit Identifier	Both sides of the fuselage 45 inches down and level from Fuselage Reference Plane (FRP), grounded at aft point of FS 392.	10 inches	37038
Associate Unit Identifier	Both sides of fuselage. Located 5 inches below and centered on AMC unit identifier.	10 inches	37038

Local Station Numbers (Last 4 digits of aircraft serial number)	Centered on both sides of nose landing gear follow-up doors.	12 inches	37038
Air Force Outstanding Unit Award	Left fwd side of fuselage 5 inches up and level with FRP, grounded at aft point with FS 383.	See **Figure 5.2.**	See **Figure 5.2.**
Crew Chief Block	Left side of fuselage, 12 inches aft of crew entry door, grounded 5 inches up from L27 (#2 skin longeron).	MXG/CC discretion	37038 See paragraph **5.5.10.**
Command Emblem	AMC both sides of fuselage, 12 inches aft of crew entry door, grounded 5 inches up from L27 (#2 skin longeron).	34 inches	As required.
AFRC Emblem	Both sides of fuselage. Centered between aft edge of AMC emblem and leading edge of formation light. Grounded 5 inches up from L27 (#2 skin longeron).	34 inches	As required.
National Star Insignia Outline	Both sides of fuselage, according to Douglas drawing (NXE6403).	30 inches	37038
Boom Elevators	Numeric designator of assigned unit centered on the underside of the left elevon and alpha designator (ARW, OPG, AFRC, etc.) centered on underside of the right elevon.	10 inches	36622

Table A2.5. KC-135 Markings.

Marking	**Location**	**Size**	**Color/Finish**
Tail Band Stripes	2-inch upper stripe grounded at WL 568.90, top of the lower 2-inch stripe located 12 inches below the bottom of the upper stripe.	As required	37038
US Flag	Both sides of vertical stabilizer,	21 X 40 inches	Matte finish

	bottom of flag on WL 447, centered between stabilizer leading and trailing edges, not including rudder.		
National Star	Locate and size according to T.O. 1C-135-3-8, *Exterior Stencils, USAF Series -135 Aircraft*	See T.O. 1C-135-3-8	37038
"AMC" Tail Marking	Both sides of vertical stabilizer, centered between stabilizer leading and trailing edges, not including rudder, 12" below US Flag.	12 inches	37038
Radio Call Numbers	Both sides of vertical stabilizer. Top of numbers 12 inches below "AMC" tail marking, centered between stabilizer leading and trailing edges, not including rudder.	12 inches	37038
Unit Identifier	Both sides of the fuselage, centered, and 6 inches under identification numbers.	6 inches	37038
Associate Unit Identifier	Both sides of fuselage. Located 6 inches below and centered on AMC unit identifier.	6 inches	37038
Local Station Numbers (Last 4 digits of aircraft serial number)	Both sides of fuselage. Locate according to TO 1C-135-3-8.	6 inches	37038
Air Force Outstanding Unit Award	Centered 3 inches above the crew entry door.	See **Figure 5.2.**	See **Figure 5.2.**
Crew Chief Block	Left side of fuselage only; 6 inches below and centered on the command emblem.	MXG/CC discretion	37038 See paragraph **5.5.10.**
Command Emblem	Both sides of fuselage, 16 inches aft of crew entry door, 6 inches below USAF markings. (Do not paint "US Air Force" on camouflage aircraft.)	34 inches	As required.
AFRC Emblem	Both sides of fuselage. Most forward leading edge will be located 14 3/8 inches aft of the most aft edge and	34 inches	As required.

	aligned with the top of the AMC decal.		
Boom Elevators	Highest numeric designator of station assigned (22d, 458th, 905th, etc.) centered on the underside of the left ruddervator and alpha designator (ARW, OPG, AFRC, etc.) centered on underside of the right ruddervator.	10 inches	36622

Table A2.6. KC-46 Markings.

Note: Aircraft specific T.O./Commercial Manual for grey tail markings guidance will be followed. Only mandatory markings are approved and all markings will stay as manufacture produced. Waivers, changes, or optional marking requests will not be approved. Internal Nose Art is authorized with proper routing, outlined in paragraph **5.5.2.1.2.**			
Marking	**Location**	**Size**	**Color/Finish**
US Flag	See TO/ Commercial Manual	See TO/ Commercial Manual	See TO/ Commercial Manual
National Star	See TO/Commercial Manual	See TO/ Commercial Manual	See TO/ Commercial Manual
Radio Call Numbers	See TO/ Commercial Manual	See TO/ Commercial Manual	See TO/ Commercial Manual
"U.S. AIR FORCE" Fuselage	See TO/ Commercial Manual	See TO/ Commercial Manual	See TO/ Commercial Manual